

REMARKS/ARGUMENTS

OBJECTIONS TO THE DRAWINGS AND SPECIFICATION

The pending office action states that Figures 1, 2, and 3 should be designated by a legend indicating that the Figures illustrate only “that which is old.” On the attached replacement sheet 1, Figures 1, 2, and 3 each bear the designation “Prior Art” to overcome the objection to the drawings.

The office action also states that the specification improperly incorporates essential matter by reference to foreign applications or patents. Without taking a position regarding whether the matter contained in the referenced documents constitutes essential matter, this amendment replaces the references to the EP application, EP patent, and international application in the specification with a reference to the specification (or a portion thereof) of the patent number of the corresponding U.S. patent. Accordingly, the specification after entry of this amendment refers only to material in a United States patent, thereby overcoming the objection without the need for a declaration or affidavit.

REJECTIONS OF THE CLAIMS

All of pending claims 11 – 41 have been rejected under Section 103 based on United States Patent Number 5,911,551 (“Moran 551”) in view of Japanese Utility Model Application No. 57-117323 (the “JP Reference”). Applicants submit that the rejection is improper, first, because Moran 551 does not constitute prior art against the present application and, second, because the limitations of the claims are neither taught nor suggested from the cited prior art.

Claims 24 and 34 have been cancelled and replaced by new claims 68 and 76. Claims 25-33 and 35-41, which previously depended from claims 24 and 34, have been amended to depend from new claims 68 and 77, respectively. In addition, new claims 69-76 (which depend from claim 68) and new claims 78-87 (which depend from claim 77) have been added to round out the scope of the claims. New independent claim 88 and dependent claims 89-100 have been added.

The Cited Moran Reference Is Not Prior Art

Moran 551, which was asserted as prior art presumably under Section 102(e), does not constitute prior art against the present application because the claimed invention of the present application and the subject matter of Moran 551 were, at the time the invention of the present application was made, owned by the same entity. As stated in paragraphs 3 and 5 of the attached declaration of Ms. Ismay Ratliff, at the time the subject matter of the Moran 551 patent was developed and at the time the invention claimed in the 862 application was conceived and reduced practice, the subject matter of the 551 patent and the invention disclosed and claimed in the present application were owned by the same identity -- CarnaudMetalbox plc.

Accordingly, the Moran 551 reference does not constitute prior art against the present application according to 35 U.S.C. § 103(c) because of the common ownership at the time the invention was made. On the basis, alone, that the primary reference -- on which the pending rejection is based -- does not constitute prior art, Applicants submit that the pending claims are allowable.

The Claimed Invention Is Patentable Over Any Other Prior Art Reference in Combination with the JP Reference

The office action states that “the angle of inclination is not given patentable weight as it does not affect the method steps claimed.” (Office Action, 8/7/03, at 3). As an initial matter, Applicants submit that not giving patentable weight to the configuration of the unseamed can end, on which the method steps are performed, is incorrect as a matter of law.

In this regard, M.P.E.P. § 2116 et seq. requires that all limitations must be considered in determining patentability of a method claim, including beginning and ending materials: “The materials on which a process is carried out must be accorded weight in determining the patentability of a process.” M.P.E.P. § 2116 (Edition 8, August, 2001, latest revision February 2003) (citing *Ex parte Leonard*, 187 USPQ 122 (Bd. App. 1974)). Moreover, M.P.E.P. § 2116.01 expressly states “All the limitations of a claim must be considered when weighing the differences between the claimed invention and the prior art in determining the obviousness of a process or method claim.” *Id.* (emphasis in original). “[P]roper claim

construction requires treating language in a process claim which recites the making or **using** of a nonobvious product as a material limitation. Motivation to make or use the nonobvious product must be present in the prior art for a 35 U.S.C. 103 rejection to be sustained.” *Id.* (emphasis added) Accordingly, the claim limitations reciting structure of the can end before and after the method steps must be considered in determining patentability.

Furthermore, limitations relating to the “angle of inclination” should be given patentable weight because, for example, some of the claims recite reforming the can end wall in the seaming operation such that the angle of inclination of a portion of the wall is altered. For example, claim 68 recites that although “said seaming operation deforming said first wall portion such that at least a portion of said first wall portion after seaming is substantially cylindrical, . . . said line between said first and second locations on said wall remaining inclined between about 20° and about 60° with respect to said axial centerline after completion of said seaming operation” Accordingly, the numeric range of the “angle of inclination” does, in contrast the statement in the office action, “affect the method step.”

Regarding the patentability of the pending claims, and as discussed in the background section of Applicants’ specification, traditional unseamed metal can ends included a peripheral cover hook, a steeply inclined wall, an outwardly concave annular reinforcing bead, and a center panel. Such conventional unseamed metal can ends are joined to a metal can body by a seaming operation, in which the peripheral cover hook and can body flange are deformed together by seaming rolls to form the seam, as shown in Applicants’ Figure 3.

Surprisingly, Applicants have discovered that both the thickness of the can end necessary to contain a given internal pressure and the overall diameter of the flat metal sheet from which the end is formed (that is, the “cut diameter”) could be significantly reduced by providing a can end having a particular geometry, including a wall as recited in the pending claims, and deforming it *in a seaming operation* so as to produce a seamed end having a different geometry.

As shown in Figure 4 and described in the corresponding text of the instant application, the seaming operation begins by providing a can end that has a wall extending from the seaming panel portion of the cover hook 23 (the radius of the seaming panel is designated r_2 in Figure 4) to an annular reinforcing bead 25. The wall of the can end is then engaged by a chuck 31 having a substantially cylindrical wall 33 and an inclined wall 32, as

shown in Figure 5. As shown in Figures 6 and 7, during the seaming operation, seaming rolls 34 and 38 deform an upper portion of the can end wall so it becomes substantially cylindrical after seaming so as to form, along with the peripheral curl, a double seam. However, the lower portion of the wall (and, of most importance for present purposes, a straight line extending between its two ends) remains inclined at an angle between about 20° and about 60° with respect to the axial centerline. The deformation of the upper portion of the wall so as to form a seam is accomplished by causing the juncture formed by the walls 32 and 33 of the chuck to engage the can end wall so that the upper portion of the can end wall is bent upwardly around the juncture by the seaming rolls. Further, the rotation of the can end is driven through driving contact between the juncture formed by the chuck walls 32 and 33 and the can end wall.

Accordingly, claim 68, for example, specifies a seaming method that comprises the step of “deforming said first wall portion such that at least a portion of said first wall portion after seaming is substantially cylindrical, . . . said line between said first and second locations on said wall remaining inclined between about 20° and about 60° with respect to said axial centerline after completion of said seaming operation.” Claim 69, which depends from claim 68, further requires that “said first and second chuck walls form a juncture therebetween, and wherein the step of bringing said chuck into engagement with said can end comprises bringing said chuck wall juncture into engagement with said can end wall proximate said first location on said can end wall.” Claim 70, which depends from claim 69, further requires “bending said first wall portion of said can end upwardly around said chuck wall juncture so as to permanently deform said first wall portion.” Claim 25, which also depends from claim 68, specifies that “at least a portion of said can end wall first portion is reformed by bending upward by an angle of at least about 16°” during the seaming operation.

Claim 77 is similar to claim 68 but does not require that the can end have a reinforcing bead and specifies that the “first portion of said can end wall is bent upward through an angle of at least about 16°.”

Claim 88 specifies that the seaming operation “bend[s] a portion of said can end wall upwardly around said juncture of said chuck walls at a first location on said can end wall, a straight line extending from said first location on said can end wall to said transition between

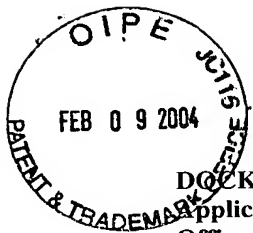
said can end wall and said reinforcing bead inclined between about 20° and about 60° with respect to said axial centerline both before and after said seaming operation.”

Claim 11 specifies that “rotation of said can end during said first seaming operation driven by said rotating chuck through driving contact between said juncture of said first and second walls of said chuck and said inclined wall of said can end without driving contact between said chuck and said can end bead interior surface.”

The claimed method for seaming the disclosed can end onto a can body is neither taught nor suggested by the prior art. In particular, the JP reference shows only an end **after** seaming onto a can body and provides no details concerning the configuration of the can end prior to seaming or, more importantly, the method used to yield the seamed can end shown in the figures of the JP reference.

The JP reference merely discloses a can end in which the wall is oriented at an angle θ of 20° to 70° **after** the can end is deformed by the seaming operation. To the extent that the JP reference provides any disclosure of a method of seaming, it teaches away from the current invention. The JP reference explains that the seamed can ends shown in the figures of JP reference comprise “a plate-like chuck panel positioned between a chuck wall that is to be **rolled and connected to a can body . . . in such a manner that said plate-like chuck panel is inclined at 20 to 70 degrees . . .**” (JP reference, page 1) Thus, unlike the instant invention in which the lower portion of the wall remains substantially undeformed by the seaming operation while the upper portion of the wall is deformed so as to be substantially cylindrical, the JP reference teaches that seaming is performed in such a manner as to incline the lower portion of wall at an angle of 20 to 70 degrees. This suggests that the lower portion of the can end wall prior to seaming was not inclined at such an angle but was reformed during an undisclosed seaming operation so as to achieve that angle of inclination. In general, the configuration of the can end of the JP reference prior to seaming is unknown.

The claims that depend from claims 68 and 77 further distinguish the invention from the JP reference. Dependent claims 69 and 70 (further to the explanation above) and 78 and 79 recite a chuck having two walls that form a juncture therebetween that engages the can end wall during seaming so as to deform the upper portion of the can end wall into a substantially cylindrical configuration. By contrast, the JP reference provides no information



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concerning the shape of the chuck to be used and the manner in which it is applied to the unseamed can end so as to deform it into a seamed can end.

Additionally, with respect to claim 11, the JP reference neither teaches nor suggests that "said rotation of said can end during said first seaming operation driven by said rotating chuck through driving contact between said juncture of said first and second walls of said chuck and said inclined wall of said can end without driving contact between said chuck and said can end bead interior surface."

CONCLUSION

Based on the foregoing, Applicants respectfully submit that the rejection is improper at least because (i) the primary reference relied upon (Moran) is not prior art, (ii) the limitations relating to starting configuration of the can end prior to seaming must be given patentable weight, and (iii) the prior art, including the JP reference, neither teaches nor suggests the claimed method for seaming a can end having the specified configuration prior to seaming so as to produce an end having the specified configuration after seaming. Applicants submit, accordingly, that each of the claims is in allowable condition, and request favorable reconsideration of the pending rejection.

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